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CLAIMS:

What is claimed is:

1.   A method for modifying a network without tearing down existing connections, comprising:

placing a send queue that is to be affected by a modification to the network into a suspended state;

applying the modification to the network; and

placing the send queue back into an operational state after applying the modification to the network.

2.   The method of claim 1, wherein the suspended state is a send queue drain state.

3.   The method of claim 1, wherein while in the suspended state, write requests can be posted to a queue pair of the send queue, incoming messages to the queue pair of the send queue are processed normally, and work requests submitted to the send queue are queued and are not processed.

4.   The method of claim 1, wherein placing the send queue into a suspended state includes stopping processing of messages in the send queue at a message boundary.

5.   The method of claim 1, further comprising sending a notification to a subnet manager that the send queue has been placed in a suspended state, wherein the modification to the network is applied in response to sending the notification.

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6. The method of claim 1, wherein placing the send queue into a suspended state includes using a PathRecord SubnAdmReport general management packet to request suspension of messages on a queue pair over an existing path in the network.

7. The method of claim 6, wherein placing the send queue back into an operational state after applying the modification to the network includes identifying the send queue based on a Path Record Modification ID included in the PathRecord SubnAdmReport general management packet.

8. The method of claim 6, further comprising receiving a PathRecord SubnAdmReportResp general management packet in response to the PathRecord SubnAdmReport general management packet indicating that the modification to the network has been applied, wherein the send queue is placed back into an operation state in response to receiving the PathRecord SubnAdmReportResp general management packet.

9. An apparatus for modifying a network without tearing down existing connections, comprising:

means for placing a send queue that is to be affected by a modification to the network into a suspended state;

means for applying the modification to the network; and

means for placing the send queue back into an operational state after applying the modification to the

network.

10.   The apparatus of claim 9, wherein the suspended state is a send queue drain state.

11.   The apparatus of claim 9, wherein while in the suspended state, write requests can be posted to a queue pair of the send queue, incoming messages to the queue pair of the send queue are processed normally, and work requests submitted to the send queue are queued and are not processed.

12.   The apparatus of claim 9, wherein the means for placing the send queue into a suspended state includes means for stopping processing of messages in the send queue at a message boundary.

13.   The apparatus of claim 9, further comprising means for sending a notification to a subnet manager that the send queue has been placed in a suspended state, wherein the modification to the network is applied in response to sending the notification.

14.   The apparatus of claim 9, wherein the means for placing the send queue into a suspended state includes means for using a PathRecord SubnAdmReport general management packet to request suspension of messages on a queue pair over an existing path in the network.

15.   The apparatus of claim 14, wherein the means for placing the send queue back into an operational state

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after applying the modification to the network includes means for identifying the send queue based on a Path Record Modification ID included in the PathRecord SubnAdmReport general management packet.

16. The apparatus of claim 14, further comprising means for receiving a PathRecord SubnAdmReportResp general management packet in response to the PathRecord SubnAdmReport general management packet indicating that the modification to the network has been applied, wherein the send queue is placed back into an operation state in response to receiving the PathRecord SubnAdmReportResp general management packet.

17. A computer program product in a computer readable medium for modifying a network without tearing down existing connections, comprising:

    first instructions for placing a send queue that is to be affected by a modification to the network into a suspended state;

    second instructions for applying the modification to the network; and

    third instructions for placing the send queue back into an operational state after applying the modification to the network.

18. The computer program product of claim 17, wherein the suspended state is a send queue drain state.

19. The computer program product of claim 17, wherein while in the suspended state, write requests can be

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posted to a queue pair of the send queue, incoming
messages to the queue pair of the send queue are
processed normally, and work requests submitted to the
send queue are queued and are not processed.

20. The computer program product of claim 17, wherein
the second instructions for placing the send queue into a
suspended state includes instructions for stopping
processing of messages in the send queue at a message
boundary.

21. The computer program product of claim 17, further
comprising fourth instructions for sending a notification
to a subnet manager that the send queue has been placed
in a suspended state, wherein the modification to the
network is applied in response to sending the
notification.

22. The computer program product of claim 17, wherein
the second instructions for placing the send queue into a
suspended state includes instructions for using a
PathRecord SubnAdmReport general management packet to
request suspension of messages on a queue pair over an
existing path in the network.

23. The computer program product of claim 22, wherein
the third instructions for placing the send queue back
into an operational state after applying the modification
to the network includes instructions for identifying the
send queue based on a Path Record Modification ID
included in the PathRecord SubnAdmReport general

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management packet.

24.   The computer program product of claim 22, further
comprising fourth instructions for receiving a PathRecord
SubnAdmReportResp general management packet in response
to the PathRecord SubnAdmReport general management packet
indicating that the modification to the network has been
applied, wherein the send queue is placed back into an
operation state in response to receiving the PathRecord
SubnAdmReportResp general management packet.